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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,218	06/08/2006	Noboru Hamada	03500.110612.	3861
5514 7590 02/02/2009 FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112				
EXAMINER				
ZELASKIEWICZ, CHRYSTINA E				
ART UNIT		PAPER NUMBER		
3621				
MAIL DATE		DELIVERY MODE		
02/02/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,218

Applicant(s)

HAMADA, NOBORU

Examiner

CHRYSTINA ZELASKIEWICZ

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-14, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) 5-8, 13, 14 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-12 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-3, 5-14, 17 and 18 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Acknowledgements

1. This action is in reply to the Amendment filed on November 12, 2008.
2. Claims 1, 9, 11, 17 have been amended.
3. Claims 4, 15, 16 have been cancelled.
4. Claims 1-3, 5-14, 17-18 are currently pending and subject to a restriction requirement below.

Election/Restrictions

5. Restriction to one of the following inventions is required under 35 U.S.C. §121:
 - a. Invention I: Claims 1-3, 9-12, and 17 drawn to verifying PIN, classified in class 705, subclass 72.
 - b. Invention II: Claims 5-8, 13-14, and 18 drawn to secure transaction, classified in class 705, subclass 64.
6. The inventions are distinct, each from the other because of the following reasons:
7. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention I does not require decrypting the encrypted random number by using a key based on the second personal identification code. The subcombination has separate utility such as decryption with a key based on the second personal identification code.
8. The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 C.F.R. §1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes

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all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

9. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- c. the inventions have acquired a separate status in the art in view of their different classification;
- d. the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- e. the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- f. the prior art applicable to one invention would not likely be applicable to another invention;
- g. the inventions are likely to raise different non-prior art issues under 35 U.S.C. §101 and/or 35 U.S.C. §112, first paragraph.

10. Applicant is advised that the reply to this requirement to be complete must include (i) an election of an invention to be examined even though the requirement may be traversed (37 C.F.R. §1.143) and (ii) identification of the claims encompassing the elected invention.

11. The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 C.F.R. §1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

12. If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

13. Should Applicant traverse on the ground that the inventions are not patentably distinct, Applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

14. During a telephone conversation with Brain Klock on January 27, 2009 a provisional election was made with traverse to prosecute Invention I, claims 1-3, 9-12, and 17. Affirmation of this election must be made by Applicant in replying to this Office action. Claims 5-8, 13-14, and 18 withdrawn from further consideration by the examiner, 37 C.F.R. §1.142(b), as being drawn to a non-elected invention.

Drawings

15. The former objection is withdrawn.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 1-3, 9-12, and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chan et al. (US 6,378,070) in view of Ishiguro et al. (US 6,360,320).

Claims 1, 9, 11, 17

18. Chan discloses the following limitations:

- h. said information processing apparatus comprises:
 - i. a first code reception unit (local computer) adapted to receive a first personal identification code (identity of intended recipient) input by a user (sender) (C5 L65-67, C6 L1-14);
 - j. a random number generation unit (by secure printer process) adapted to generate a random number (session key) (abstract, C6 L14-28);
 - k. a print data encryption unit (by secure printer process) adapted to encrypt print data (document) by using the random number (session key) as an encryption key (abstract, C6 L14-30);
 - l. a transmission unit (print server 130) adapted to transmit the encrypted random number (encrypted session key) and the encrypted print data (encrypted document) to said print control apparatus (secure printer 140) (abstract, C6 L48-52);
- m. said print control apparatus comprises:
 - n. a reception unit (secure printer 140) adapted to receive the encrypted random number (encrypted session key), the converted first personal identification code (intended recipient's identity) and the encrypted print data (encrypted document) from said information processing apparatus (abstract, C7 L21-38);
 - o. a second code reception unit (smart card reader 280) adapted to receive a second personal identification code (recipient's identity or PIN) input by the user (recipient) (abstract, C6 L58-67);
 - p. a judgment unit (document store 130) adapted to judge whether or not the first personal identification code converted by said first code conversion unit is the same (recipient is the intended recipient) as the second personal identification code converted by said second code conversion unit (abstract, C7 L8-20);
 - q. a print data decryption unit (secure printer 140) adapted to, in the case where said judgment unit judges that the converted first and second personal identification codes are the same, decrypt the encrypted print data (document) by using the decrypted random number (session key) as a decryption key (abstract, C7 L42-49).

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19. Chan does not disclose the following limitations:
- r. A code conversion unit... function;
 - s. A random number encryption... key;
 - t. A transmission unit... apparatus;
 - u. A second code conversion unit... function;
 - v. A random number decryption... key.
20. Ishiguro discloses the following limitations:
- w. a code conversion unit (DVD player) adapted to convert the received first personal identification code (ID concatenated with service key) by using a predetermined function (hash function) (abstract, figure 32, C6 L11-25, C7 L12-18, C8 L26-41);
 - x. a random number encryption unit (DVD player) adapted to encrypt (encrypts) the generated random number (session key) by using the first personal identification code or the first converted personal identification code (license key) as an encryption key (C7 L29 - C8 L41);
 - y. a transmission unit (DVD player) adapted to transmit the converted first personal identification code (license key) to said print control apparatus (personal computer) (C7 L29 - C9 L27);
 - z. a second code conversion unit adapted to convert the received second personal identification code (ID concatenated with service key) by using a predetermined function (hash function) (abstract, figure 32, C6 L11-25, C7 L12-18, C8 L26-41);
 - aa. a random number decryption unit (personal computer) adapted to, in a case where said judgment unit judges that the converted first and second personal identification codes are the same (same license key), decrypt the encrypted random number (session key) by using the second personal identification code or the converted second personal identification code (license key) as a decryption key (C7 L29 - C8 L41).
21. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute "identity of the intended recipient" for "converted personal identification code" because a

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personal identification code serves as identity of a recipient. Additionally, Chan teaches the recipient entering a personal identification number to verify himself (C6 L58-67).

22. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ishiguro to show a transmission unit adapted to transmit the converted first personal identification code to said print control apparatus because Ishiguro already teaches 1) transmitting an ID from a personal computer (print control apparatus) to a DVD player (transmission unit); 2) creating a license key, which is a hash value of the ID concatenated with a service key; and 3) only the specific computer decrypting the received text using the same license key as the DVD player (abstract, figure 32, C6 L11-25, C7 L29 - C9 L27). A suggestion exists for the DVD player to transmit the license key (converted identification code) to the personal computer because this helps to identify the text, and another electronic apparatus will not be capable of decrypting the encrypted text by means of a stolen license key (C9 L17-27).

23. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Chan with Ishiguro because 1) a need exists to protect sensitive documents from malicious parties that could intercept or monitor the transfer of data between a local computer and network printer, or could read the sensitive document at the network printer (Chan C1 L50-67, C2 L1-5); and 2) a need exists to verify the destination apparatus to prevent unauthorized access (Ishiguro C1 L49-55, C2 L1-32). Applying a hash function to the personal identification code can help ensure secure communications and prevent unauthorized access.

Claim 2

24. Chan, in view of Ishiguro, discloses all the limitations above. Furthermore, Ishiguro discloses the following limitations:

bb. said code conversion unit converts the personal identification code (ID concatenated with service key) by using a one-way function (one-way hash function) (abstract, figure 32, C6 L11-25).

25. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Chan with Ishiguro because 1) a need exists to protect sensitive documents from malicious

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parties that could intercept or monitor the transfer of data between a local computer and network printer, or could read the sensitive document at the network printer (Chan C1 L50-67, C2 L1-5); and 2) a need exists to verify the destination apparatus to prevent unauthorized access (Ishiguro C1 L49-55, C2 L1-32). Applying a one-way hash function to the personal identification code can help ensure secure communications and prevent unauthorized access.

Claim 3

26. Chan, in view of Ishiguro, discloses all the limitations above. Furthermore, Ishiguro discloses the following limitations:

cc. said code conversion unit generates a hash value (license key) of the personal identification code (ID concatenated with service key) (abstract, figure 32, C6 L11-25).

27. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Chan with Ishiguro because 1) a need exists to protect sensitive documents from malicious parties that could intercept or monitor the transfer of data between a local computer and network printer, or could read the sensitive document at the network printer (Chan C1 L50-67, C2 L1-5); and 2) a need exists to verify the destination apparatus to prevent unauthorized access (Ishiguro C1 L49-55, C2 L1-32). Generating a hash value of the personal identification code can help ensure secure communications and prevent unauthorized access.

Claim 10

28. Chan, in view of Ishiguro, discloses all the limitations above. Furthermore, Chan discloses the following limitations:

dd. a print processing unit (secure printer 140) adapted to execute a print process (prints) of the decrypted print data (abstract).

Claim 12

29. Chan, in view of Ishiguro, discloses all the limitations above. Furthermore, Chan discloses the following limitations:

- ee. a transmission unit adapted to transmit the encrypted random number, the converted personal identification code and the encrypted print data (see claim 1).

30. **Examiner's Note:** The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the entire reference as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

31. In light of Applicants' choice to pursue product claims, Applicants are reminded that functional recitation(s) using the word and/or phrases "for", "adapted to", or other functional language (e.g. see claims 1, 9-10 which recite "adapted to") have been considered but are given little patentable weight because they fail to add any structural limitations and are thereby regarded as intended use language. To be especially clear, all limitations have been considered. However, a recitation of the intended use of the claimed product must result in a structural difference between the claimed product and the prior art in order to patentably distinguish the claimed product from the prior art. If the prior art structure is capable of performing the intended use, then it reads on the claimed limitation. *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) ("The manner or method in which such a machine is to be utilized is not germane to the issue of patentability of the machine itself."); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). See also MPEP §§ 31.06 II (C.), 2114 and 2115. Unless expressly noted otherwise by the Examiner, the claim interpretation principles in the paragraph apply to all claims currently pending.

Response to Arguments

32. Applicant argues that Chan and Ishiguro fail to disclose converting a received personal identification code by using a predetermined function, and transmitting said code with an encrypted random number and encrypted print data (Amendment p10-13). Examiner disagrees. Please see rejection of claim 1. Ishiguro discloses converting a received personal identification code by using a predetermined function (abstract, figure 32, C6 L11-25, C7 L12-18, C8 L26-41).

33. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ishiguro to show a transmission unit adapted to transmit the converted first personal identification code to said print control apparatus because Ishiguro already teaches 1) transmitting an ID from a personal computer (print control apparatus) to a DVD player (transmission unit); 2) creating a license key, which is a hash value of the ID concatenated with a service key; and 3) only the specific computer decrypting the received text using the same license key as the DVD player (abstract, figure 32, C6 L11-25, C7 L29 - C9 L27). A suggestion exists for the DVD player to transmit the license key (converted identification code) to the personal computer because this helps to identify the text, and another electronic apparatus will not be capable of decrypting the encrypted text by means of a stolen license key (C9 L17-27).

Conclusion

34. Applicant's amendment filed on November 12, 2008 necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

35. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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36. Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to Chrystina Zelaskiewicz whose telephone number is 571.270.3940. The Examiner can normally be reached on Monday-Friday, 9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Andrew Fischer can be reached at 571.272.6779.

37. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair> <<http://pair-direct.uspto.gov>>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free).

/Chrystina Zelaskiewicz/
Examiner, Art Unit 3621
January 28, 2009

/ANDREW J. FISCHER/
Supervisory Patent Examiner, Art Unit 3621